A.D. 1864, *4th August.* N° 1939.

Pianofortes.

LETTERS PATENT to Théodule Joseph Vite Roz, of Paris, in the Empire of France, Manufacturer, for the Invention of "IMPROVEMENTS IN PIANOFORTES, AND IN KEYBOARDS FOR PIANOFORTES AND SIMILAR INSTRUMENTS."

Sealed the 23rd September 1864, and dated the 4th August 1864.

COMPLETE SPECIFICATION filed by the said Théodule Joseph Vite Roz at the Office of the Commissioners of Patents, with his Petition and Declaration, on the 23rd September 1864, pursuant to the 9th Section of the Patent Law Amendment Act, 1852.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, THÉODULE JOSEPH VITE ROZ, of Paris, in the Empire of France, Manufacturer, send greeting.

WHEREAS I am in possession of an Invention for "IMPROVEMENTS IN PIANOFORTES, AND IN KEYBOARDS FOR PIANOFORTES AND SIMILAR INSTRUMENTS," and have petitioned Her Majesty to grant unto me, my executors, administrators, and assigns, Her Royal Letters Patent for the same, and have made solemn declaration that I am the true and first Inventor thereof.

NOW KNOW YE, that I, the said Theodule Joseph Vite Roz, do hereby declare that the following Complete Specification under my hand and seal fully describes and ascertains the nature of the said Invention, and the manner in which the same is to be performed, that is to say :—

My Invention consists in a system of orpheon piano with elementary

solfegio transposing and accompanying keyboard divided into four progressive classes or degrees for gradual and practical teaching of the pianoforte or organ, the large keyboard of which is also transposing and accompanying, and forms the fifth and last class.

My system of combinations applies to all kinds of instruments with keyboards, whether horizontal or vertical, such as grand, square, upright, oblique, and half oblique pianofortes, pipe organs, reed organs, and to all reed instruments whatever.

I claim as my property the system of combinations, and I declare that I intend to reserve to myself all the applications indicated and all other analogous ones.

The accompanying Drawings represent the said Invention.

The advantages of my system of combinations are :—

Firstly, the construction of the bottom or back of the piano with round colums, the steel wire strings of which are fixed on an iron frame with iron bars opposite each column. The said frame is fixed upon the bottom or back of the piano with screws and bolts passing through said back, and fixing behind it other iron bars parallel with the columns and the front bars. Another iron bar fixed to the two corners of the back by bolts, crossing the steel strings at their bases, and forming resistance to the drought of the covered strings of the bass, is tied by these bolts to another similar bar placed behind the back of the piano, see Fig. 1.

Fig. 1 is a section of the instrument seen from the bass point; F, back of piano. Fig. 2, a front elevation of back of piano ; *a*, iron frame with its iron bars A, on which the strings are fixed; *b*, iron bar crossing the basses. The red and blue lines show the advantages of my system of iron bars *b*. *b*, *b*, a side view of the same ; *c*, false wooden frame, on which the sounding board is glued. Fig. 3, back view of the back of piano formed by five round columns, which I may make oval or in larger number if I think it necessary. *b*, iron bars, which I may or may not employ at pleasure ; C, false wooden frame on which the sounding board is glued.

Secondly, in the action of the piano, Fig. 1 is a system of combinations of movements placed under the escapement of the action which, by a lifter, corresponds to another movement placed above the lever M, placed on the block M† of the key I ; said round or float lifter is fixed to the movements O and O† by two joint pins above and below, so that if the key C, below which is fixed a counter key D, fixed to the front of the keyboard, and which bears on the front end of the key I, is pressed it lifts the movement O, which, by the lifter O, works the movement O† placed under the escapement of the

action of the piano, and works the hammer. The movement O† placed under the escapement of the action by butts may be independant of the action by means of a bar, on which the aforesaid movements may be fixed. The said bar may be fixed to the sides of the piano case or to the sides of the action. The bar on which the movements O are placed and fixed by butts is attached to the sides of the action or it may be fixed to the sides of the piano case.

It will be understood that this system of lifters, which I may lengthen or shorten, allows me to raise or lower my pianofortes. For this combination see Fig. 1.

Thirdly, in a system of combinations and construction of cabinet work which envelopes the instrument, formed of moveable parts or sections, by means of which I obtain the "expression," the 'crescendo,' the "decrescendo," and 'distant' sounds. The said moveable parts are placed in the cover, the sides, above and below in the front, at the back, and under the instrument. The number of moveable pieces which may be placed in the above-mentioned parts is unlimited, varying according to the style and nature of the instrument, see Fig. 1, body of an instrument seen with the sections or moveable parts open, marked B. Some of them act horizontally and others perpendicularly. I claim all positions and forms which may be given to these parts according to the style of the cabinet work, either concave, convex, triangular, butt jointed, or overlapping each other. I also claim the use and application of materials of all kinds, such as plate glass, either naked or silvered, coloured, or other glass, interior or exterior ornamentation or engraving, wood, composition, marble, slate, either engraved or carved, gutta percha, either engraved or in relievo, the whole to be according to the style and elegance of the cabinet work.

Fig. 4 is a plan of the back of a piano. *a*, iron frame; *b*, bar crossing the basses; B, moveable pieces fixed in the back of piano, which are only indicated to show the forms which may be given to these parts; B, B, moveable sections placed in the cover of the instrument, seen open, the number of which is unlimited, according to the form and nature of the instrument; C, sides, one of which is concave and the other convex, shown as example of the different forms. The number of moveable pieces placed in the concave, convex, or flat sides of the cases of the instruments is unlimited, as is that of the pieces placed under the instrument. It is the same for the back as for the front of the instrument. It will be seen that the sides are adherent to the back of the piano. I claim the right to isolate if I think necessary the case which envelopes the instrument, or I might take out or put in the back of the piano like a drawer, and fix it by any suitable means, such as dovetail slides fixed to the upper and

lower parts of the sides of the case, and to the sides of the back of the piano, either glued or screwed.

Figure 4 shows the ends of the columns F, on each of which a square part is reserved for joining the back of the piano. The moveable sections fixed in the body of the instrument and in the frames forming part of the cabinet work have at each end a pivot in the middle of their width. I claim placing the pivots on one of the corners near the angle, or employing hinges fixed on one angle and to an upright or to a cross piece.

My system of combinations of moveable sections with the cabinet work and with the columns which form the bottom or back of the frame (Figs. 2 and 3) has the advantage, firstly, of letting the sounds produced by the vibration of the sounding board pass, which, no longer finding any obstacle, turn round the columns, and, secondly, by means of the pedals and squares fixed by screws to the moveable parts, which are connected by a round or flat rod in which are fixed the pivots of the squares, and which corresponds to the pedal by another square drawing or pushing and working the moveable parts so as to obtain the 'crescendo,' the 'decrescendo,' the 'expression,' and 'distant' sounds; motive for which I name it 'orpeon.'

Fourthly, in the system of combinations of transposing keyboards which, placed above a keyboard corresponding with the piano action, transposes in all the tones in ascending or descending by a system of "antifriction," formed of two grooved pulleys placed in a block of wood or of metal in a hollow in which are placed grooved pulleys with their pivots, and through which passes an axle. The said block is screwed perpendicularly on the cross piece of the back of the frame of the transposing keyboard. It may also be placed horizontally. The axle of the antifriction is placed in two supports fixed to the frame of the action keyboard, and is combined with a pulley placed between two metal plates screwed to the front and to the cross piece. The pivot of the pulley passes through the front, and a fixed or moveable winch is attached to it. On the said pulley a cord or its equivalent is wound. The said cord is fixed to one side of the transposing keyboard by a ring, screw, or hook, and on the other side to an adjusting screw with a moveable key or thumb nut used for regulating the tension of the cord. Under the front of the transposing keyboard is fixed a pin, which enters a metal plate bored with twenty-five holes corresponding to each tone. The said plate is fixed to the front in which the pulley is fixed. A knob fixed to the front of the transposing keyboard is used for raising the keyboard in order to operate the transposition by means of the winch setting the pulley in movement for transposing at pleasure.

Fig. 5 shows the frame and pulley system ; G, frame of the action keyboard and its front ; 17, rack ; 9, pulley and its winch ; H, transposing keyboard frame ; 16, cord ; I, adjusting thumbscrew ; J, antifriction with its block ; K, supports ; L, axle of the antifriction.

Fig. 6 : *a*, an elevation of the antifriction with its block ; *b*, a side view of the same ; 1 & 2, system of 'antifriction,' which I claim the right to employ or not.

Fig. 9, plan view of the grand transposing keyboard, the action keyboard, and the accompanying keyboard, the right-hand side or half of the transposing keyboard seen in place. 1, the keyboard ; H, its frame ; 16, its front with knob 10 ; I, adjusting screw ; J, 'antifriction' and its block ; L, axle of the antifriction ; 3, its support ; 4, action keyboard ; 18, levers of the action keyboard, which correspond to the movements O ; each key of the transposing keyboard is provided at its lower part, in front, with a knob or regulating screw, which acts on the action keyboard. I reserve the right of providing, if necessary, the action keyboard with similar knobs or screws.

Fifthly, in the system of combinations of the accompanying keyboard, the keys of which are in right and left oblique directions and correspond with the octaves. This keyboard is divided in two parts, one of which acts on the basses, and the other on the treble notes ; the said keyboard is placed under the action keyboard and hinged on the front, in which the pulley is placed. By a square corresponding to the pedals these latter raise the accompanying keyboard from behind, and render it dependent on the upper keyboard, under which are fixed at each end of the keys lifters placed in the front and back cross pieces of the action keyboard frame, which serve for guiding them, and correspond with each key of the accompanying keyboard, so that by pressing on one of the keys of the transposing keyboard, fa, for instance, of the medium, one acts on the action keyboard, which by its lifters corresponding to the fa of the accompanying keyboard, the keys of which correspond with the octave, raises from behind the key of the octave fa of the action keyboard, which pressing on the fa of the octave of the accompanying keyboard raises from behind the fa of the third octave of the action keyboard, which pressing on the fa of the third octave of the accompanying keyboard moves the other fa, and so on for the other notes.

Figure 9.—The left-hand part of this Figure represents a plan of the accompanying keyboard, one octave of the action keyboard oft he piano being shown to demonstrate the position of said keyboard in its position on the accompanying keyboard. 4, action keyboard ; 6, accompanying keyboard of the piano ; 7, its frame ; 11, hinges ; 12, place occupied by the lifters and regulating screws ; 13, pivots of the flap ; 16, cord, wound on the pulley ; 17,

front, with its rack ; 18, levers. It will be seen by the octave removed that if the key mi is pressed, all the mi's will act by the correspondance of the lifters placed between the keyboard as above described. This is why I call it " accompagnateur."

I reserve to myself the right to connect with the ends of the keys by means of pivots the lifters guided by a bar or ruler mounted on center points, which by means of a square corresponding to the pedals or to a stop would bring back the lifters under the keyboards in front or behind.

I claim the right to divide the accompanying keyboards into two separate parts, each part would then act separately by means of a stop or square corresponding to the pedals. The grand transposing keyboard, the action keyboard, and the accompanying keyboard are fixed in a compartment of woodwork, which turns over. The bottom of the keyboards forms the facade when raised. On the sides and outside are fixed the pivots 13. I may also fix to the sides inside the supports of the antifriction axle. On the same sides are glued or screwed two tapits, on which is screwed the frame of the action keyboard.

Sixthly, in the system of combinations of the elementary, solfegio, transposing, and accompanying keyboards, divided into four progressive classes or degrees for gradual and practical teaching of the piano and organ, see Fig. 11. Octave of an ordinary keyboard, on which I have combined my progressive degrees or classes, and my system of keyboards, levers, and squares placed one above the other, and working by each other. Some of the keyboards are fixed, and others sliding. I can also place them indistinctly ; firstly, above a keyboard and act directly on the action ; secondly, under any keyboard, and act by means of the lifters on the action or the keyboard placed above it ; thirdly, above any keyboard and act directly on the keys of said keyboard ; and, fourthly, in front of an instrument and by means of a movement combined with the keyboard act on the keys of said keyboard. With the back cross piece of the keyboard frame, the two sides and the front, which I dovetail together, I form a drawer, in which I fix the keys of the keyboard ; below each key is fixed a knob or regulating screw, which acts on a counter key placed below. The counter keys are fixed to the front with butts or with a rack. Under the ends of the counter keys are fixed knobs or regulating screws, and on the end a pin upheld by a triangular cross piece, going the whole length of the keyboard, which I call the square, pivots on the sides, and by means of a stop corresponding to the square works the latter and raises the counter keys in order to facilitate the movement of the drawer. Two sides, on which I screw or tenon the frame or bottom of the keyboard, which acts directly on the action, and a tablette placed above form a compartment, on the sides of which are fixed two latches, the bolts of which

enter staples fixed to the sides of the drawer, in order to shut and fix it when drawn. The counter key by means of its knob or regulating screw acts on the key of the keyboard, which by means of its levers fixed on the end of the key acts on the action. By my system of combiantions I may connect the four progressive classes or degrees in a compartment, and place them in the same instrument. Two pivots fixed by screws to the sides of the piano case and to the sides of the compartment render it moveable, and allow of lowering it in order to make way for the large keyboard, which is moveable by the same system of ironwork; the compartment in which the keyboards are fixed is supported by two slide tapits or by hinged brackets fixed in front of the case on a cross piece or on the sides of the piano case.

Fig. 10 is a plan view of the elementary drawer keyboards with transposing and accompanying keyboards. Right-hand part; C, transposing keyboard in its frame H ready for working; B, bar, below which are fixed the key pins of the keyboards; F, the antifriction chariot above described, fixed to the frame of the transposing keyboard; I, adjusting screw with a thumb nut or moveable key; H, knob, used for raising the keyboard; H, H, knob of the stop; T, the drawer and its front G, on which the rack and the pulley are placed between two metal plates screwed to the front G; the axle of the pulley passes through the front and receives a winch G, G, which may be fixed or moveable; T, T, plan view of the side, on which are fixed the staples Z and the support of the antifriction F; the other support is fixed on the back cross piece of the drawer T, which slides in the sides of the compartment U, in which is fixed the frame of the keyboard I with screws or tenons corresponding to the action with its levers M. The key pins of the keyboard are fixed to the bottom of the frame J. N, key pins of the keyboard. It will be seen by the position of the transposing keyboard that the keys of the action keyboard are in right line in the middle, and oblique at the treble and bass notes, according to the size of their keyboards. It will be understood that the keys may be more or less oblique, according to the class of the keyboard. On the left-hand or bass side five notes of the action keyboard are figured, in order to show the arrangement of the accompanying keyboard K fixed on its frame J. On the sides of the frame of the aforesaid keyboard are screwed two branches, which form pivots in front, and are screwed to the side U. U, U, a plan view of the said side, showing the position of the action keyboard I, with its frame J, and the accompanying keyboard K, with its ironwork Y; V, screws serving as pivots; X, latches. The ends of the keys of the accompanying keyboard are terminated by butts, the lifter passes in the middle and serves for guiding them. The keyboards

being fixed in the compartment are connected by lifters, at each end of which and at each end of the keys are glued leather washers, which uphold them between the keys, so that the latter are rendered dependant on each other and work one by the other. The upper keyboard attacks the action by its levers fixed on the end of the key. The accompanying keyboard is dependant on the action keyboard by means of lifters placed between the two keyboards, under each key in the cross pieces of the front and back of the frame of the action keyboard, which serves for guiding them; their combinations and effects have already been described.

Figure 12, transversal section of elementary solfegio keyboard on the keyboard A, intended for children, for whom I have arranged a system of solfegio in the whole length of the keyboard, showing the names of the notes and their musical value, corresponding with the tableau of the keyboard from the key fa of the bass to the upper sol, corresponding with the extension of the keyboard, with small double-faced cards, on which are lithographed or printed various designs indicating the name of the note engraved on the upper part of the card, and showing in the middle the position of the note on the scale; at the bottom of the card a place is reserved showing the naturals and sharps. Twelve cards form the octave, and being placed in notches made for the purpose at the ends of the keys of a lifting keyboard, rise one before the other by means of the keys of said keyboard, which keys are by series of four longer than each other in the same octave, and so on for each octave in the whole length of the keyboard. I claim placing the said keys three by three, if necessary. The said lever keyboard is placed under the fingerboard and works by means of a knob or regulating screw placed under each key of the upper keyboard, which presses on the end of said lever or key, or by a hook fixed on the front end of the keys of the lever keyboard.

The keys of the said lever keyboard are of wood. I claim making them of metal, if convenient or necessary.

Fig. 12.—1, the key of keyboard; 2, cross piece, on which are placed the key pins of the keyboard; 3, lever keyboard, which carries the cards; 4, the rack, in which the pivots of the lever key are placed; the said rack is fixed to the sides by screws or tenons; 5, keys of the counter keyboard fixed at one end by butts to the hinder cross piece 11. On the front end and above the counter keys is placed a regulating screw, and below it is fixed a knob or regulating screw, which presses on the counter key 6 fixed to the front 9 by butts or by a rack, and at the end below said rack is fixed a knob or regulating screw, which presses on the grand keyboard A. On the ends of the counter keys are fixed pins supported by a triangular bar or ruler called square, the pivots

of which are fixed to the sides, raises the keys by means of a stop 8, in order to pull the drawer; 10, small tablette or slab, which covers the keyboard; 11, small tablette or slab screwed to the hinder cross piece and to the sides. Fig. 12*a* and Fig. 12*b*, small double-faced solfegio cards; Fig. 12*c*, keyboard tableau in connection with the musical value of the notes for helping the learner to find on the keyboard the notes marked on the music, of which Fig. 12*c* represents the middle octave; Fig. 12*d*, plan of the elementary solfegio keyboard, with six octaves and drawer placed on an ordinary keyboard A. 1, first octave bass side placed on the keyboard 5, the keys of which are fixed to the hinder cross piece 11, under which are placed the counter keys 6 fixed to the front 9, and which press on the keyboard A, the oblique lines of which show the position of each key on the grand keyboard A. 5 counter keys are figured, in order to show their positions. It will be seen that the keys will be more or less oblique, according to the class of the keyboard. It will be seen that the key fa presses on the key fa of the keyboard 5 fixed to the hinder cross piece 11, and presses on the counter key 6 fixed to the front 9, and which presses on the fa of the keyboard A, and so on; Fig. 12*e*, its side seen in elevation and its dovetails, on which is figured a lever, which by means of a cross piece raises the counter keys, and if necessary replaces the square and its stop; Fig. 12 8, section by the middle of an elementary keyboard with six octaves and its counter keyboard, corresponding to the action of the piano. Under each key are fixed knobs or regulating screws, and on the end of each key levers corresponding to the action are fixed. *f*, key fixed to the back cross piece of the frame A with butts or pins, and above it a tablette; *g*, counter keyboard, its frame and its front *g*, on which rests the keyboard *f* and its front; B, bar fixed on the sides of the keyboard, on which is hinged a ruler, on which is engraved, lithographed, or printed the tableau of the keyboard corresponding with the notes and their musical value, Fig. 12*c*. Behind the tablette is hinged a bracket, and on the bar B is made a rack. Figs. 12*f* and 12*g*, plan view of the elementary keyboard with six octaves of the Fig. 12 8; *f*, an octave of the bass side placed on the keyboard *g* corresponding to the action keyboard, the oblique lines of which show the place of each key corresponding to the action.

In Fig. 12*h* is seen a side view or profile of the key *h* of one part of the octave *h*, showing that it may be solfegio, transposing, or accompanying. Fig. 12*i* a section of an elementary transposing and accompanying keyboard with drawer placed over a keyboard, and acting directly on the action, the combinations of which have been above described. B, bar in which are fixed

the key pins which guide the keys, and on which is fixed the above described tableau or scale; C, transposing keyboard; *d*, the counter keys; F, the square used for raising the counter keys; F, the antifriction; G, the front in which the pulley is placed; H, the stop which corresponds to the square. The knob used for raising the keyboard for transposing is not seen. I, the action keyboard and its block M; J, frame of the keyboards; K, the accompanying keyboard and its pivot K; L, lifters placed in the hind cross pieces of the action keyboard frame. On the front end of the accompanying keyboard exists a regulating screw not shown. Fig. 12*j*, section of an elementary keyboard with drawer placed under the bottom of keyboard of a piano, and which by means of lifters corresponding to the action or to the keys of the piano may be solfegio, transposing, and accompanying, and whose combinations have been before described and seen, Fig. 12*i*. Fig. 12*k*, section of an elementary keyboard, which by means of squares combined in all positions for pressing on the keys of the keyboard, or for raising the escapement of the action, is connected by a round or flat lifter fixed to the squares by pins or screws, may be placed on a keyboard A, Fig. 12, as well as the Fig. *l*, which represents a section of an elementary keyboard, the combined movements of which working one by the other, either for bearing down or raising. These keyboards may also be placed over a keyboard, as in Fig. 12*i*, and under the bottom of the keyboard of a piano, as Fig. 12*j*, the combinations and effects of which have been sufficiently described in the Figures above mentioned. Fig. 7 is a section of three elementary keyboards connected in a compartment placed under the bottom of the keyboard of a piano by means of two metal slides hinged and screwed to the compartment in which the keyboards are fixed; the supports of the slides *e* are screwed under the bottom of the keyboard, and serves as pivot for the compartment for placing it in front of the instrument by metal or wooden slides, with their supports screwed under the bottom of the keyboards. The movement *a* depending on the key *i* presses on the key of the keyboard *d*, of which A represents the bottom. The movement *a*, the rack *b* of which is fixed to the tableau *c*, divided in two parts, one of which is fixed to the compartment B, in which are fixed the keyboards, and the other pivot connected by hinges, thus rendering it moveable, turns over on the tablette C fixed to the compartment; B, B, the same keyboard lowered. The two Figures *a* represent the levers, one of which is straight for the sharps, and the other lowered for the natural keys. A regulating screw, the head of which forms a ring, and having a knob on the end, is fixed to the screw, which is placed in each lever or movement *a*, which presses on the key of the keyboard *d*. On the ends of the tablette *c* are screwed two bolts or slides for fixing the movement *a* on

the keyboard *d*. Fig. 8, combination of a pedal for the keyboards, Fig. 7. In the pedal cross piece a slider is drawn out, and contains a broken movement 2 and 3, which acts on a lever fixed under the bottom of the piano keyboard. On the end of the said lever a part is lengthened by means of a slider corresponding to a lifter fixed under the accompanying keyboard frame, in a butt, or by means of a leather washer glued to the lifter and to the frame; the guide lifter is fixed to the keyboard frame. An upright placed above the pedals on the midde of the lower frame is hinged to the upright 1 and to the pedal cross piece. This upright developes itself and presses on a knob on the movement 2, which carries on its end a round projection corresponding to said knob, and serving as pedal. The upright 1 is supported perpendicularly by a latch fixed to the frame.

Fig. 1.—General section of the whole instrument seen from the bass side.

A, body of instrument; B, moveable sections open; C, dotted line showing the developement of the large accompanying, transposing, and action keyboards turned up perpendicularly on the instrument, and which by means of the pivots 13, fixed to the sides of the piano case and to the sides of the flap, turns down horizontally. 1, key of the transposing keyboard; 2, cross piece of its frame; 16, its front and its knob 10, used for raising the keyboard; 3, ironwork which carries the antifriction shaft; 4, action keyboard and its lever 18; 5, its frame; 6, accompanying keyboard; 7, its frame; 8, bottom of keyboard forming front of flap; 9, pulley and its winch; 11, hinges of the accompanying keyboard; 12, lifters placed between the two keyboards; 14, bar behind the sharps; 15, tablette of the keyboard and its front; 17, front on which is fixed the rack and pulley. D, dotted line showing the developement of the transposing and accompanying elementary keyboard. Three of them are placed one above the other, and one is open ready for use, the upper one being transposing and accompanying. A, keyboard tablette; B, bars under which the key pins are fixed, serving as guides for the keys and on which the rule of the scale, Fig. 12*c*, is fixed; C, keyboards, the keys of which are fixed behind on the frame by pins or butts; D, counter keys fixed to the front; E, squares used for raising the counter keys; F, support of the antifriction; G, fronts; in the upper one are fixed the pulley and rack; H, knobs of the stops which correspond to the squares E; I, action keyboards; J, keyboard frames; K, accompanying keyboard with its pivots K; L, lifters tying the backs of the keys of the action keyboard by skin washers glued to the lifters and to the keys. The accompanying keyboard is connected in front with the action keyboard by a knob or regulating screw fixed below the key of the action keyboard. I claim the right of placing them, if necessary, on

the accompanying keyboard. M†, block and its lever M; N, key pins which guide the action keyboard; P, desk; Q, pivots on which turns the compartment in which the keyboards are fixed; R, squares used for raising the accompanying keyboard, fixed to the sides of the piano case; S, lifters or rods corresponding to the squares and pedals; E, brackets which carry the compartment in which the keyboards are fixed; F, bottom or back columns of the piano on which is fixed the iron frame *a*; G, line showing that the instrument may be lowered or raised, which I claim. The third class, the keyboard of which is open, by the key of the keyboard C, under which is fixed a knob or regulating screw, presses on the counter key D, fixed to the front G, and below said counter key is placed in its end a knob or regulating screw, and at its extremity a pin raised by the square E by means of the stop H, in order to aid the working of the drawer. The counter key D presses on the key I, which by its lifter raises from behind the key of the keyboard I. Second class, which raises by means of the lifter the key I of the first class keyboard, which key by means of the lever M raises the movement O, which by the lifter O draws the movement O†, which raises the escapement and works the hammer.

Having now described the nature of my said Invention, and the manner in which the same is to be performed, what I claim is, all the systems of combinations and applications above described, and demonstrated in the present description and Drawings annexed thereto.

In witness whereof, I, the said Thèodue Joseph Vite Roz, have hereunto set my hand and seal, this First day of August, in the year of our Lord One thousand eight hundred and sixty-four.

T. J. V. ROZ. (L.S.)

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ROZS Specification.

Half of execution size.

FIG. 12.k

FIG. l.

4.
3.
2.
1.
FIG. 11TH

Scale of 1. foot.

FIG. 12. e.

FIG. 12.d.

FIG. 12. g

FIG. 12. f

FIG. 12. h

FIG. 12. X.

FIG. 12TH

FIG. 12.a.

FIG. 12.b.

FIG. 12.c.

FIG. 12.i.

FIG. 12.j.

FIG. 6TH

FIG. 1ST

FIG. 12.

FIG. 12.

(1 SHEET)

FIG. 12TH

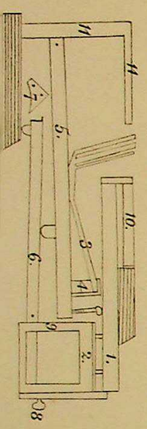


FIG. 12.a.

FIG. 12.b.

FIG. 12.c.

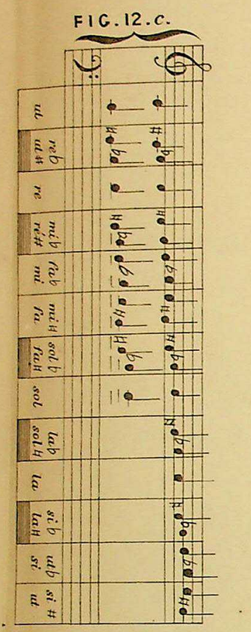


FIG. 12.i.

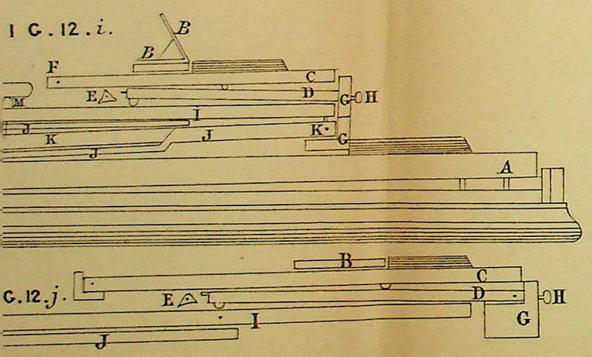


FIG. 12.j.

FIG. 6TH

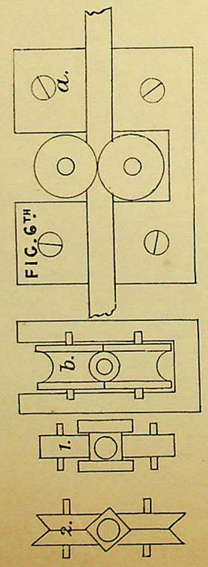


FIG. 1ST

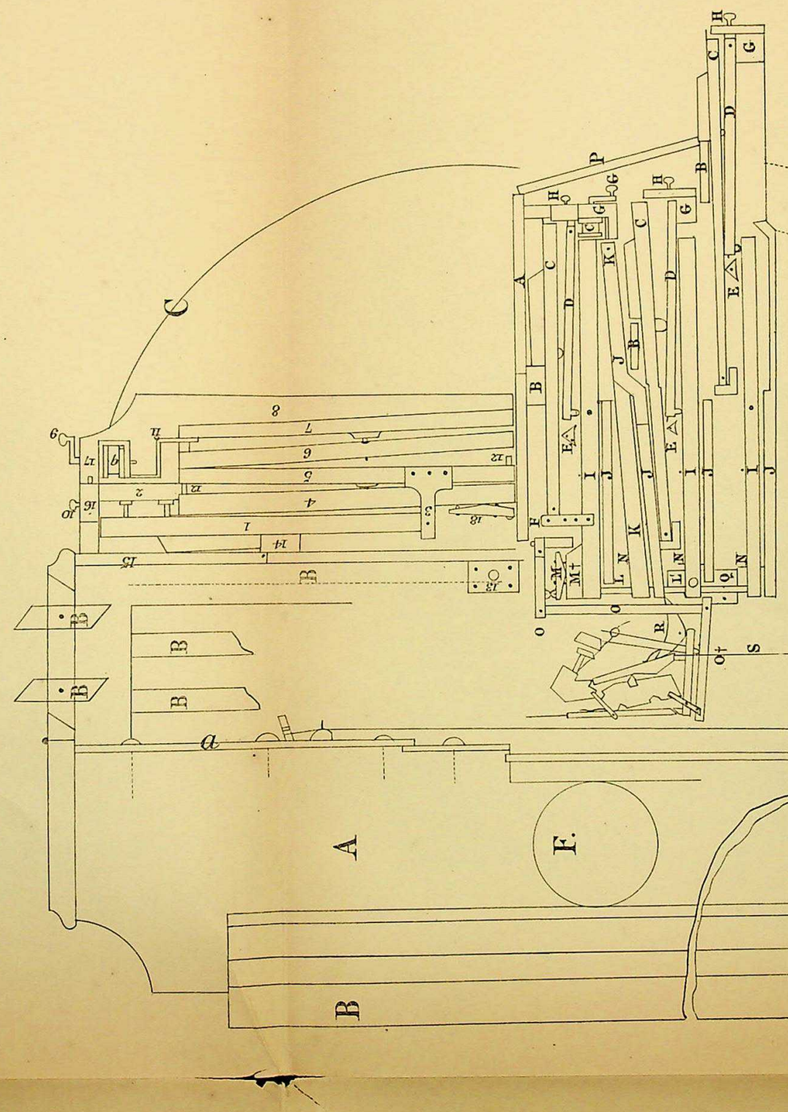
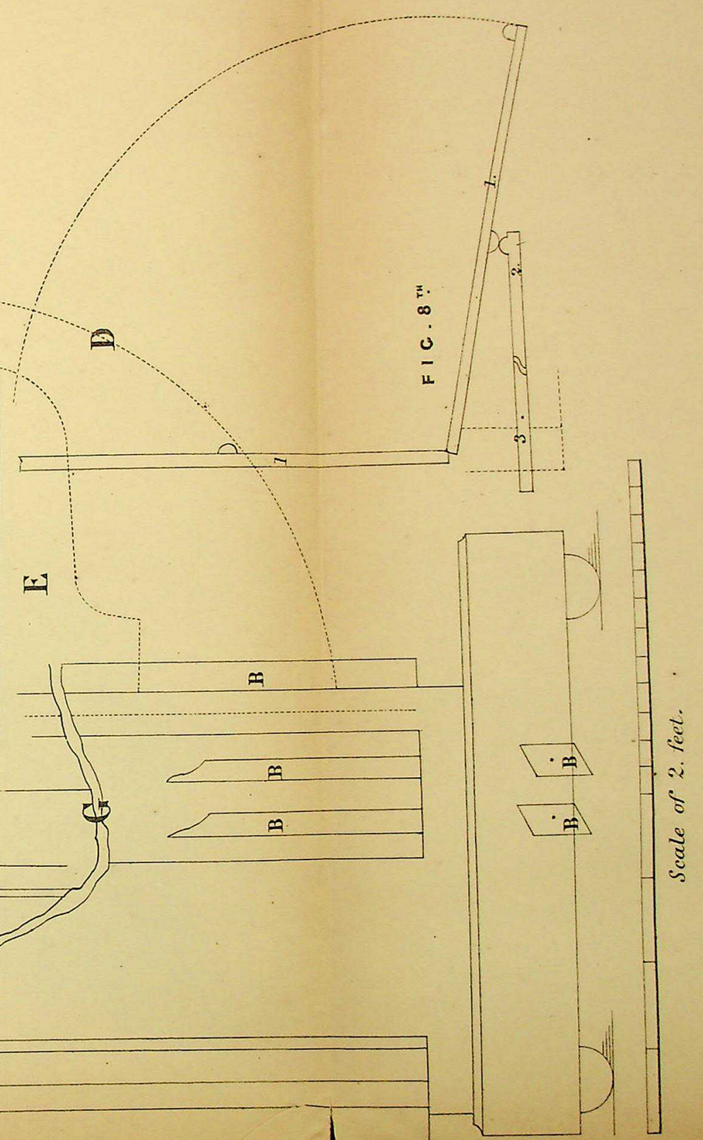
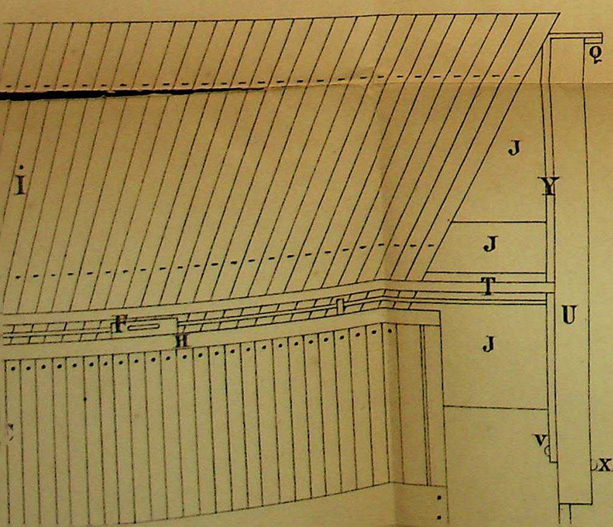
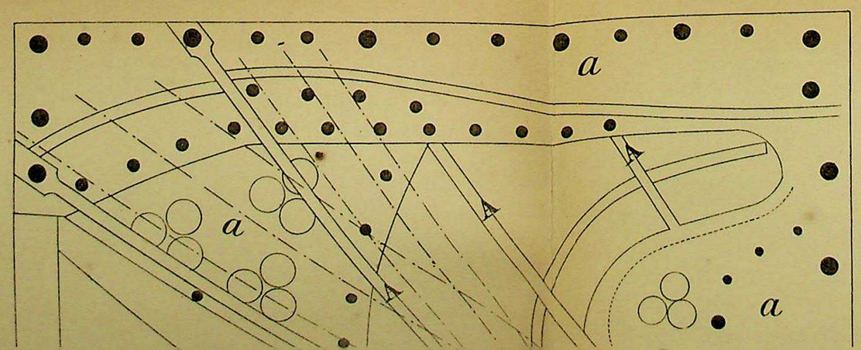


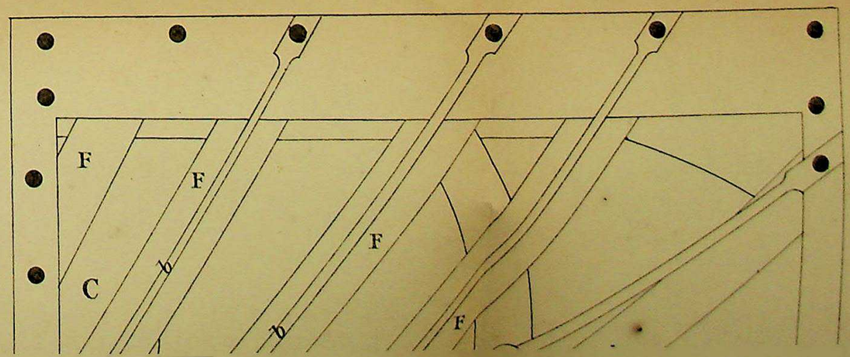
FIG. 8TH



Scale of 2. feet.







Half of execution size.

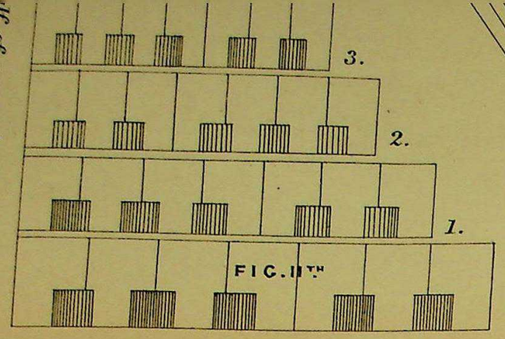


FIG. 11TH

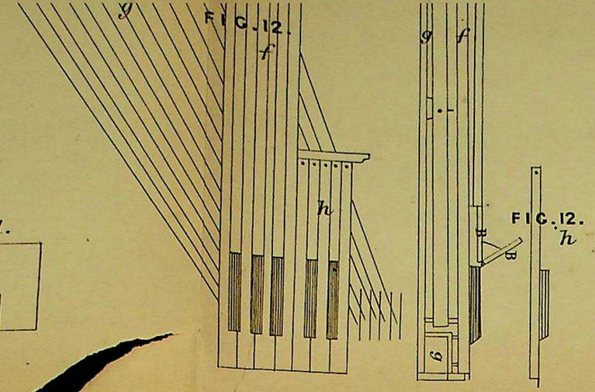


FIG. 12. f

FIG. 12. h

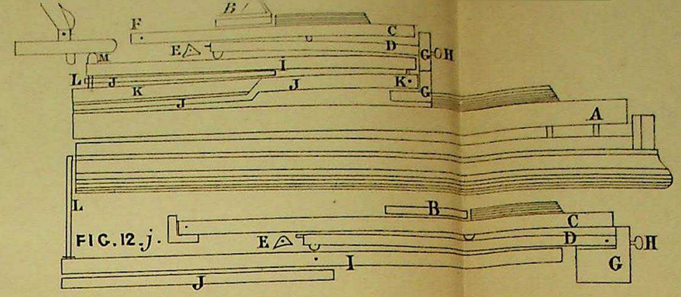


FIG. 12. j.

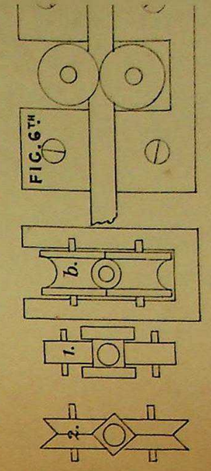
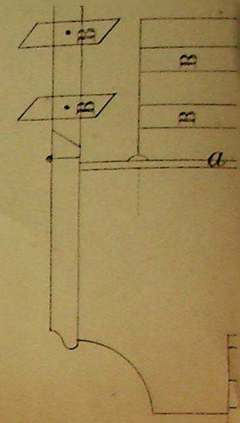


FIG. 6TH



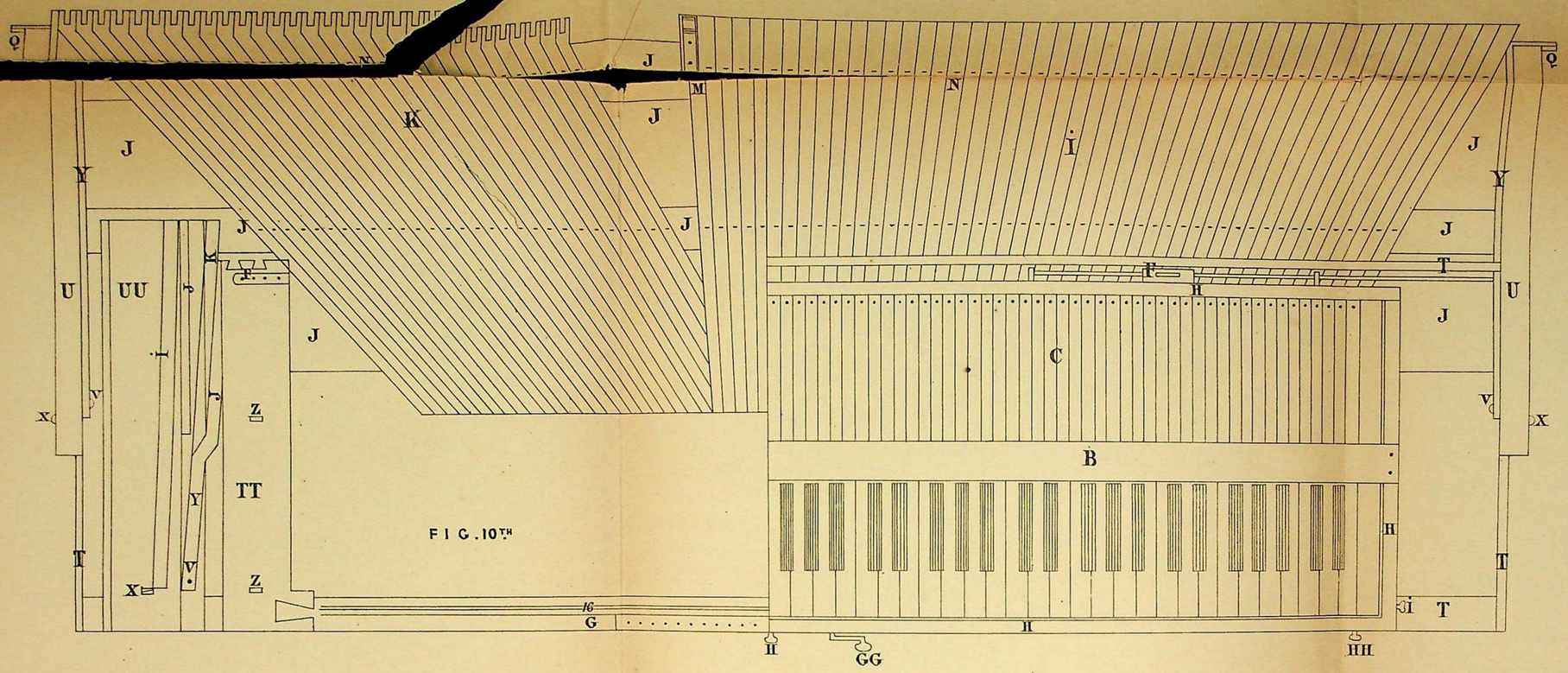


FIG. 10TH

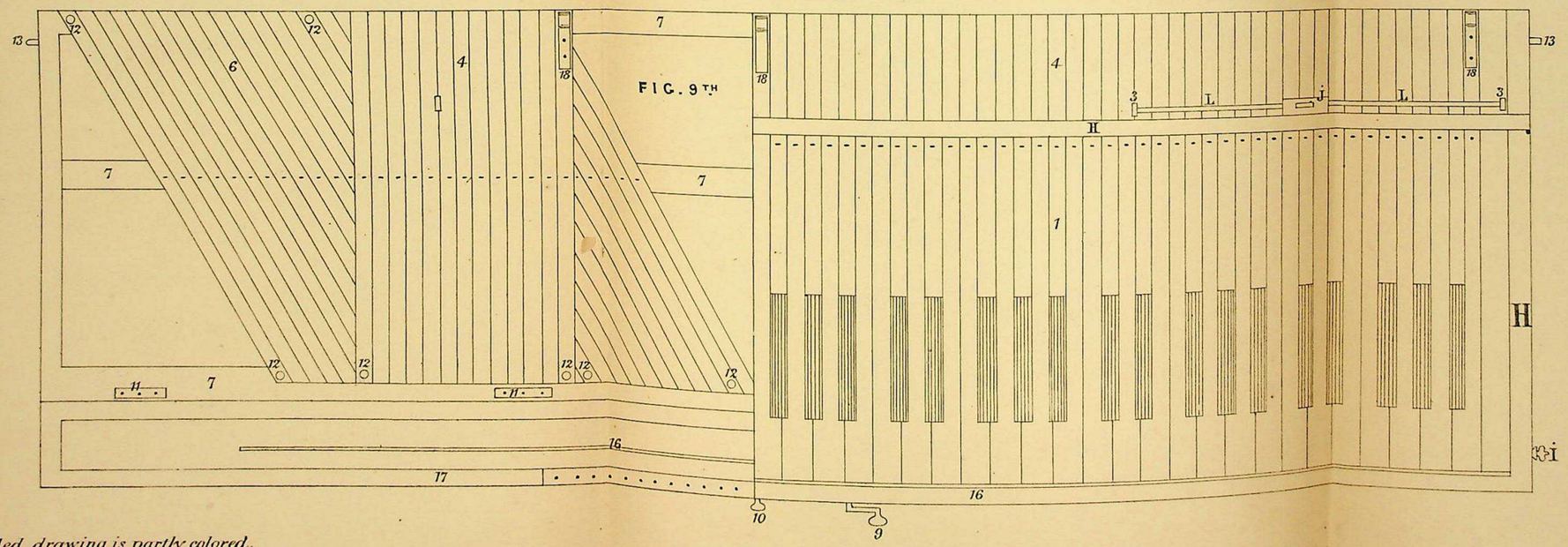


FIG. 9TH

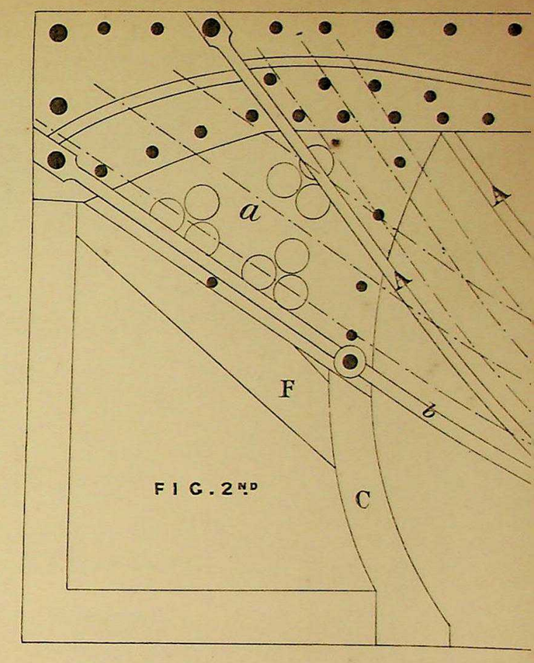


FIG. 2ND

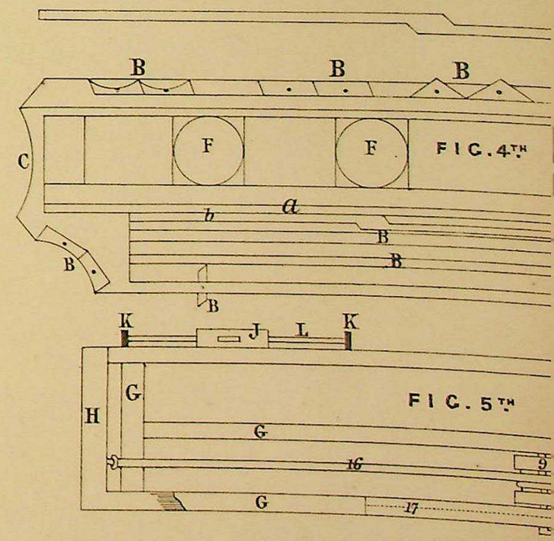


FIG. 4TH

FIG. 5TH

The filed drawing is partly colored.

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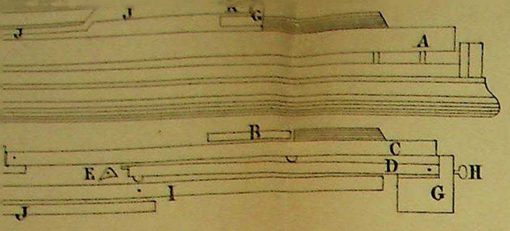
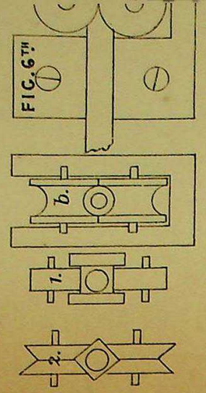
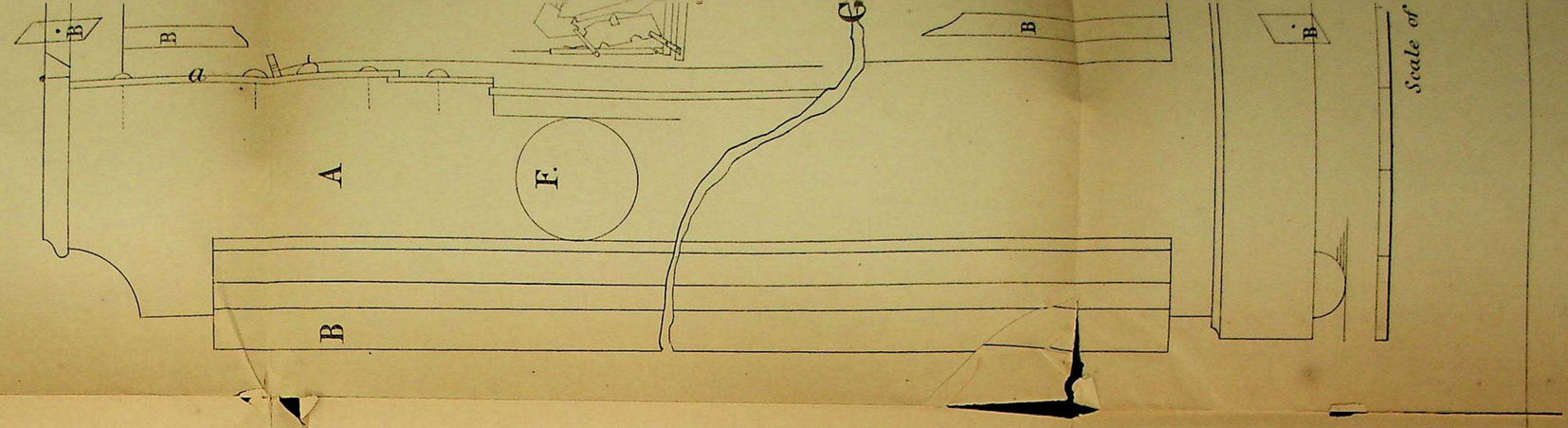
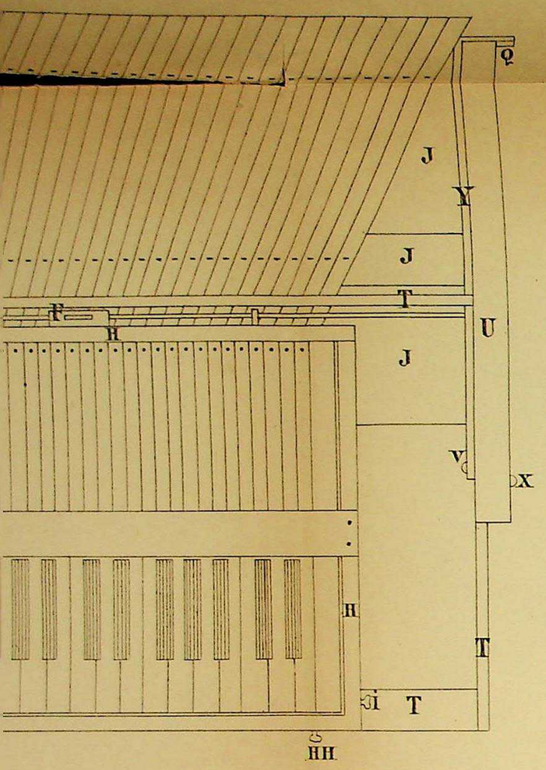
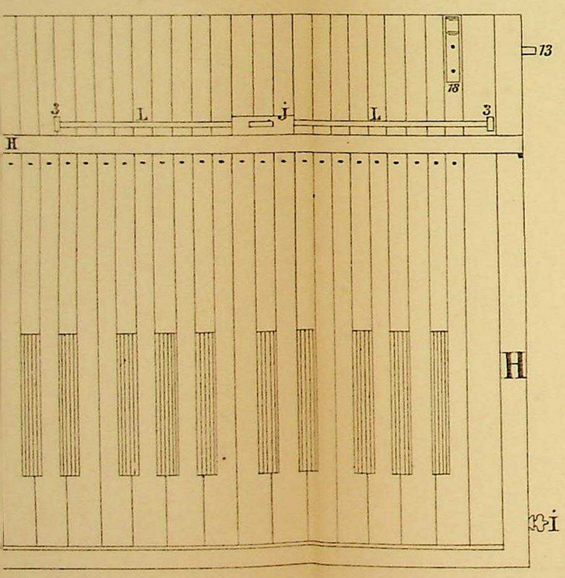
Printers to the Queen's most Excellent Majesty. 1865.

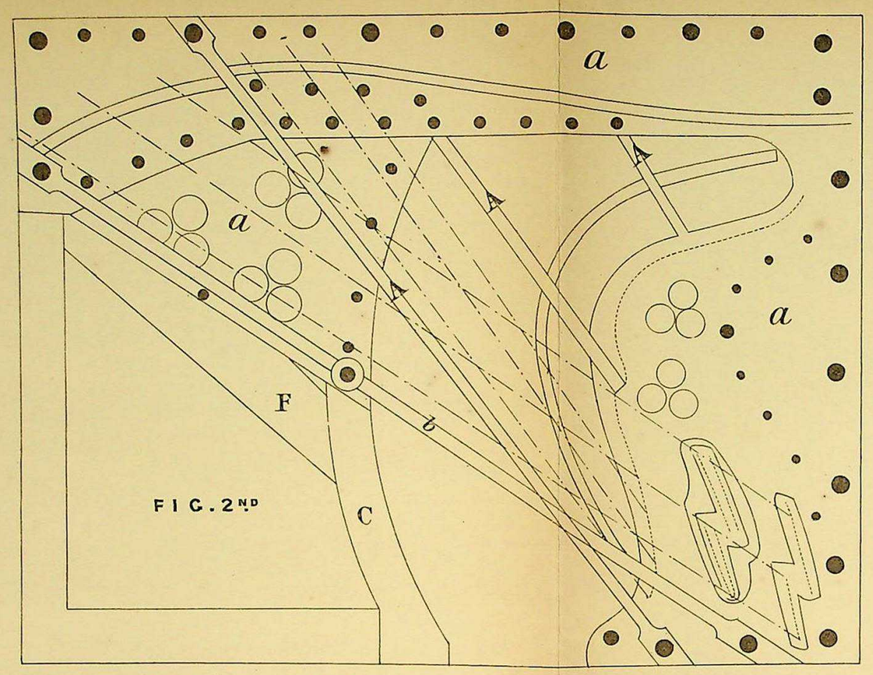


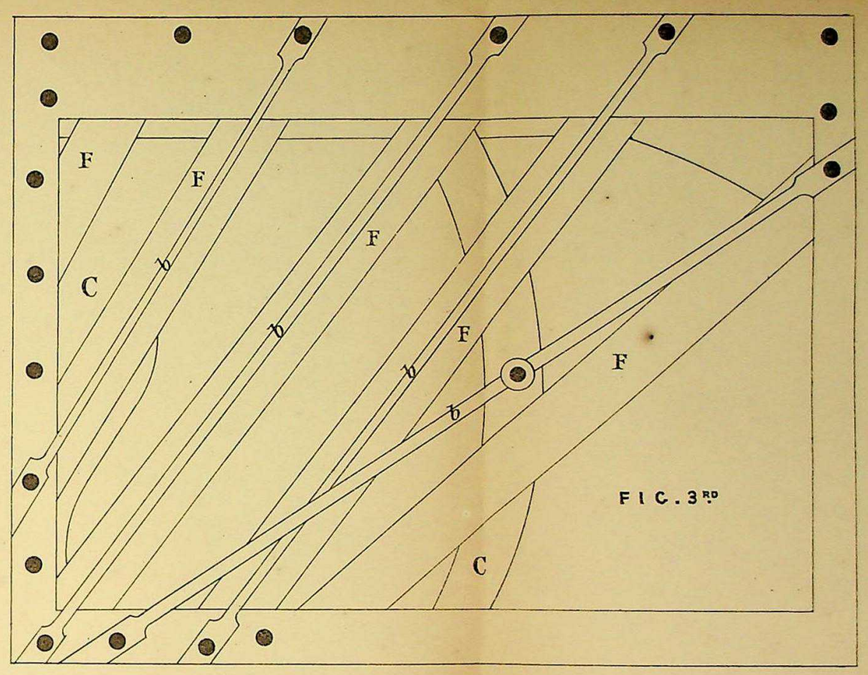


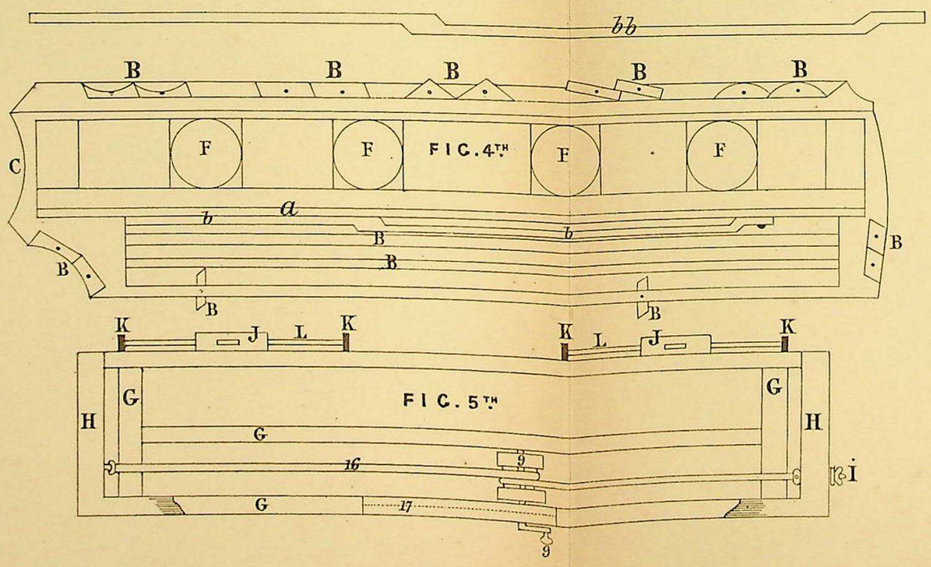




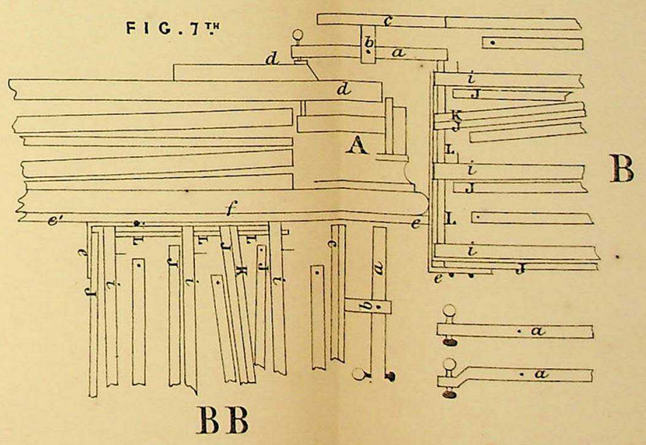








Scale of 3. feet.



Drawn on Stone by Malby & Sons.

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Printers to the Queen's most Excellent Majesty. 1865.